

# コンピュータを用いた言語学習に対する学生の準備 状況 : 大学1年生を対象とした長期調査

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雑誌名	紀要
巻	8
ページ	73-78
発行年	2014-03-31
URL	<a href="http://id.nii.ac.jp/1088/00001556/">http://id.nii.ac.jp/1088/00001556/</a>

*Research report*

## **Are Students Prepared for Computer-Based Language-Learning Courses?**

- A longitudinal survey of computer use among first-year university students -

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**Abstract:** This paper reports on a long-term study into the day-to-day use of computers among first-year university health and welfare majors at a small university in Northern Japan with the purpose of improving delivery of an English language course employing network-based communication activities. An anonymous questionnaire was given across four years to students registered in the course. Results were compiled and compared between years, revealing that students have restricted familiarity with and access to computers and the Internet outside the university and demonstrate a growing preference for mobile, rather than PC-based, technologies. These results suggest that teachers who use computer-assisted language learning (CALL) pedagogies need to show flexibility in their methods, provide technological support to students who are less adept at computer use, and make efforts to incorporate mobile technologies where possible.

**Key words:** Computer-assisted language learning (CALL), computer literacy, Moodle, Computer-mediated communication (CMC)

### **OBJECTIVES**

The use of computer-based technologies in the language-learning classroom has been demonstrated (Cummins J et al. 2007; Jarrell and Freiermuth 2005; Kern R et al. 2008; Lam and Kramsch, 2003) to have the potential for enhancing students' learning experiences. In the context of English as a foreign language (EFL) classes, social-media technologies in particular are able to provide students with opportunities for meaningful interaction that are not otherwise available to them due to geographical distance between participants. These technologies, however, are beneficial only inasmuch as they facilitate the language-learning objectives of course content. It is important, then, to understand both students' receptiveness to the use of these technologies and their functional abilities in using them effectively for achieving the intended instructional goals. Digital technologies used in most universities tend to be computer-based and their use often presupposes a degree of computer literacy

among students that will allow them to benefit from activities delivered via such media. It is important then to examine carefully those assumptions. What computer skills are students entering university actually bringing with them?

The present study represents an attempt to gauge the degree to which students are prepared for English language courses based on the use of computer-mediated communication (CMC) technologies delivered through a Moodle learning management system (LMS) in the form of forums, asynchronous voice-recording exchanges, wikis, and other such network-based activities. It also seeks to identify areas of concern with regard to students' competency to engage in such activities, that is, their computer literacy, with the goal of improving delivery of course content and better preparing students for engaging with the technologies.

### **METHOD**

Over the four years from 2007 to 2010, an anonymous questionnaire survey was given to first-year students at a small Health & Welfare Science university in Northern Japan enrolled in a compulsory, CALL-based English course. Each of the four classes consisted of between 28 and 30 students. The survey was conducted at the beginning

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Received November 15, 2013; Accepted February 18, 2014

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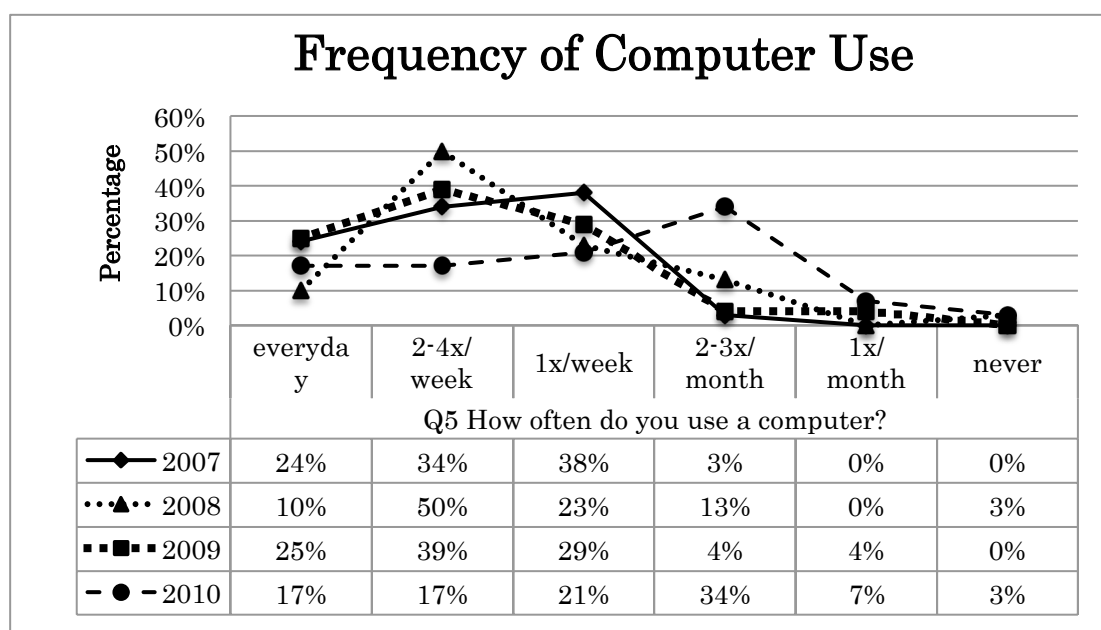
of the course, and via the Moodle LMS itself, which is able to compile, graph and store results. Questions were either yes/no or multiple choice type items that broadly covered four areas: attitude towards computers and their use, Internet availability and usage, use of email, and computer accessibility within the university itself. Questions asked of students are listed below:

1. Do you like using computers?
2. Are you comfortable using a computer?
3. Do you have your own computer now?
4. If yes, what kind of computer do you own?
5. How often do you use a computer?
6. What do you use a computer to do?
7. Would you like to learn more about computers and how to use them?
8. How often do you use the Internet?
9. What do you use to access the Internet?
10. Do you have a computer Internet connection at home now?
11. If not, would you like to have a computer Internet connection at home?
12. Other than email, what do you use the Internet to do?
13. How many email addresses do you have?
14. On average, how many emails do you receive every day?
15. How often do you use a cell phone to send/read emails?

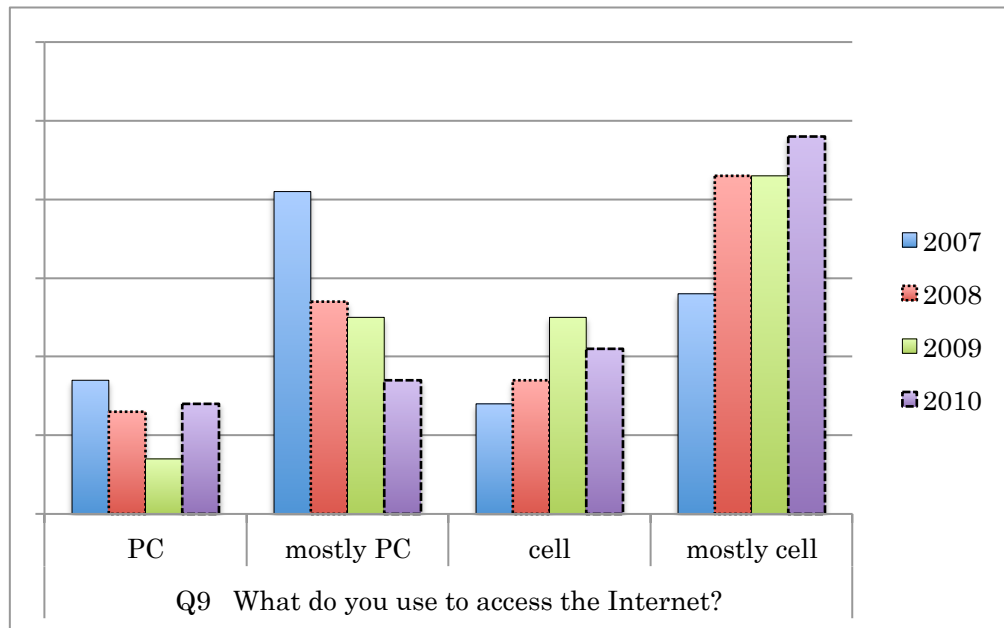
16. How often do you use a computer to send/read emails?
17. How do you prefer to write/prepare assignments?
18. How would you prefer to submit assignments?
19. Are there enough computers for students at the university?
20. Are the computer rooms conveniently located?
21. Should there be more computer locations for students to use computers at the university?

## RESULTS

The data proves more useful in building a generalized and static profile of students' use of computer and Internet-based technologies than it does in indicating any particular trend over time, although a few linear patterns of change are discernible. Substantially more students in 2009/2010 (54% and 38% respectively) than in 2007/2008 (21% and 17% respectively) indicated that they were comfortable using a computer (Q2), although the difference between 2009 and 2010 results makes it difficult to say whether this is a trend or not. Indeed 2010 students seem to stand apart from their peers in terms of the frequency with which they use computers, as visualized by Figure 1 below.



**Figure 1: Frequency of Computer Use 2007~2010**



**Figure 2: Method of Internet Access 2007~2010**

There are also some indications that the purpose of that use has changed over the duration of this study, with Q6 showing an uninterrupted increase in the percentage of students who use the computer for watching video and/or TV (28%, 47%, 58%, 61%) and a continuous decrease (76%, 63%, 61%, 59%) in those who say they use it for browsing the Internet. This may simply represent a generally growing preference to see the Internet as less of a unified entity and more as a confluence of specific uses. One no longer “browses the Internet” as much as one “watches videos on YouTube”. Another apparent tendency deducible from Q6 is a decreasing use (48%, 27%, 29%, 14%) of the computer for reading/receiving emails. Question 16 asks for more detail as to the frequency of computer use for this purpose and, although it is difficult to discern any clear tendency, roughly 60% of students use computers for email once a month or less. Question 9 indicates a gradually decreasing use of computers coupled with an increasing use of cell phones to access the Internet. This trend is shown graphically in Figure 2 above. Question 18 can be interpreted as a diminishing resistance to submitting reports and assignments electronically, with a majority of 2009 (46% + 21%) and 2010 (31% + 24%) students stating a preference for electronic submission or no preference either way. Notably, though, only 21% of 2010 students say in Q6 that they use a computer for word processing, significantly lower than in other

years (52%, 60% and 61%). This leaves one to wonder what kind of assignment they would like to electronically submit! Finally, in Q19 the increased feeling among newer students that there are enough computers at the university undoubtedly reflects improvements made to university computer facilities over recent years.

Other results of this survey either remained fairly constant over time or yielded an anomalous result in one group or another. In Q1, for example, the majority of students from 2007 to 2009 said that they enjoyed using computers (62%, 63%, 68%) while the majority of 2010 students claimed to dislike using them (52%). Similarly, in Q2, 2009 students differed from the others in that the majority of them (54%) stated they were comfortable using computers, while the majority of the others were not. According to Q3, 89% of this group of students had their own computers, while little more than half of 2007 and 2010 students (55% and 59% respectively) reported having one. A high percentage of students in every year (90%, 80%, 82%, and 93%) said they would like to learn more about computers and how to use them.

Remarkably, as for Internet use, every year but 2007 had some students who had never used it (Q8) and, while the majority of 2007 students preferred the PC for Internet access (17% + 41%), between 60 and 70% of students in other years preferred their cell phones (Q9). Except for 2009 students, less than

half the students had computer-based Internet connections at home (48%, 43%, 54% and 31%). On the whole, results revealed that the computer was seldom used as a communication or networking device, with very few students in all years using the Internet to chat (Q12: 3%, 13%, 7%, 3%) or PCs to read/send email (Q16), although a majority of 2010 students claimed to keep a blog or mixi (Q12: 62%) compared to roughly 40% in other years. While 75% of 2009 students had two or more email accounts, slightly under half of students in other years had only one.

## DISCUSSION

Computers and the various technologies associated with their use are simply tools that can be applied to the pedagogies of language teaching and learning. Simply having access to these tools does not necessarily produce the ability to use them or entail the kind of use that would prepare students for learning tasks demanded of them in a network-based course using CMC. No teacher would assume that an abundance of books in the library means that students know how to find the books they want or need, or that students are automatically capable of undertaking literature-based research projects. Students need to acquire specific, relevant and goal-oriented experience with the available technologies. Cummins et al. (2007, p. 91-92) note that the relative failure of technology to impact learning outcomes in North American public schools is due largely to a lack of innovative and effective pedagogies that place the student at the very centre of learning and teaching. At the same time, it is important for teachers not to lose sight of the larger, content-driven goals to which their use of classroom technologies is, or should be, directed. Warschauer, Knobel and Stone (2004) found that “performativity” shapes a great deal of the computer use observed in schools, stating that,

*Many teachers we observed focused on the completion of technology tasks as an end in themselves, without attention to the relationship of these tasks to relevant learning goals. More emphasis was frequently put on mastery of hardware or software functions rather than on underlying learning outcomes.*

Taken together, these observations mark two major concerns for the EFL teacher in Japan who is inclined to use technology in his/her classroom. Placing students at the focal point of classroom pedagogies involves understanding their needs. As a technologically advanced country and industrial source of a good deal of high-tech hardware, it is easy for teachers to assume that Japanese university students are already well-versed in the use of computers when they matriculate. Results of this survey, while limited, indicate that this is not always the case.

On the other hand, it is all too easy to fall into the trap of “teaching the technology” – or “performativity” – at the expense of teaching towards the language-learning goals. Understanding the computer skills that students bring to the table makes it easier for the teacher to design activities in which the technological tasks are at a level of difficulty or “transparency” that does not cloud the stated linguistic objectives and allows students to work toward those goals without distraction.

As a snapshot of the ways in which first-year students are accustomed to engaging with computer and network-based technologies, results of this study suggest that students bring a mixed bag of computer literacy skills with them when they arrive at university. Clearly they are more adept at using mobile cell-phone technologies for networking with their peers and, while they are slightly more likely than not to have their own computer, judged by the professed frequency and nature of their computer use, they are not likely to have a wide range of skills and experiences to accompany it. They are, however, inclined to enjoy using computers and seem to be quite interested in learning more about them.

Consequently, while students may be affectively motivated to engage with course content via the technologies employed, it is also important for course teachers to remain flexible in their expectations of how readily and easily students can do this. Particularly, as one of the aims of network-based communication activities through CMC is the extension of language learning beyond the time and physical confines of class and classroom, it behooves the teacher to allow students leeway in terms of homework and submission of reports and assignments. Teacher preparation of self-help, easy-to-access support features such as slide-show or video tutorials would permit

technologically less experienced students to develop necessary skills on their own without holding back those less in need of that support. Finally, whenever it is deemed necessary to devote class time to training in the technologies used, teachers, as well as students, would benefit from the making of explicit connections to the language and communicative-oriented benefits of learning that technology.

Inasmuch as the data points to trends in computer and Internet use, it would appear that students are increasingly and primarily becoming users of mobile, rather than PC-based, technologies. Although there are some options for Moodle use on mobile phones (see [http://docs.moodle.org/en/Mobile\\_Moodle\\_FAQ](http://docs.moodle.org/en/Mobile_Moodle_FAQ)) currently, functionality is limited and platform-dependent. And, whereas universities provide access to free computer facilities for students, they are unlikely to provide free mobile telephones! Nevertheless, any opportunity a creative teacher might find to incorporate mobile technologies into a network-based, CMC-styled course would likely be welcomed by a majority of students.

## CONCLUSIONS

In conclusion, although the results of this survey are limited, the study does provide data that is useful for teachers of EFL courses that attempt to include computer-based technologies in the curriculum. Returning to the title-question of this article we might answer it thus: Students are ready to engage with computers in the language-learning classroom, but they may require assistance in basic computer functions and need to be informed of how CALL activities aid in achieving their language-learning goals. Future studies should be designed to give greater detail about students' current daily use of computer and mobile-based communication technologies. Additionally, it would be useful to follow up such a study with an investigation into the degree to which students are able to tie the classroom uses of technology to their own language-learning objectives.

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# コンピュータを用いた言語学習に対する学生の準備状況

## － 大学1年生を対象とした長期調査 －

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**【要旨】**本研究では、コンピュータを用いたネットワーク・コミュニケーション中心の英語教育を改善する目的で、4年間に渡り、無記名式質問調査を行った。その結果、学生はコンピュータやインターネットを使う経験が浅く、大学外でのアクセスも限られており、インターネットやメールを利用する時に携帯電話を使う傾向にあった。これらの結果により、CALL教授法を使用する教師は、授業の進め方に柔軟性を持ち、コンピュータの使い方に慣れていない学生に対して、技術サポートを提供し、更に可能な範囲で、モバイル技術を取り入れるための努力が必要であると示唆された。

**キーワード：**コンピューター支援言語学習 (CALL)，コンピューターリテラシー，ムードル，コンピューターを利用したコミュニケーション (CMC)

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2013 年 11 月 15 日受付 2014 年 2 月 18 日受理

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